## Section 2. Process for Designing Alternative Marine Protected Area Network Proposals

For practical reasons, the MLPA mandated review and improvement of the existing array of MPAs and ensuring that California's MPAs function as a network cannot be established in a single step. The resources and effort required to design and evaluate MPAs along the state's entire 1,100-mile coast at the same time are beyond the capacity of both governmental and non-governmental resources. In addition, ecological, social and economic conditions differ widely among many regions.

A sound master plan based on the requirements of the MLPA should enable application of the MLPA to differing conditions while maintaining a statewide perspective. For these and other reasons, this master plan envisions that the statewide network will be assembled by establishing MPAs in each of several study regions along the coast by 2011. Once established, the management, research, education, and monitoring in each region can be coordinated statewide.

The master plan framework was first applied to developing alternative proposals in the central coast study region. Critical to understanding this process were several concepts and definitions. The "central coast study region" was the first general area under consideration for the design of MPAs. By no means was the entire region expected to be designated an MPA. Rather, after review of the circumstances within the region, including existing MPAs and the setting of regional design considerations, goals and objectives, alternatives for the region were developed.

Equally important, this study region was smaller than the "biogeographical regions" defined in the MLPA. It is the biogeographical regions that are the basis for determining the number of marine reserves as required by the MLPA for replicates of similar habitats within marine reserves.

Within the study region, existing regulations (including existing MPAs), the status of the resources and habitats, and the requirements of the MLPA were considered. Regional goals, objectives and design considerations were then developed, followed by potential goals and objectives for individual MPAs. Possible boundaries and regulations were then identified for individual MPAs in the region, including alternative designs and potential changes to or removal of existing MPAs.

This variety of approaches to configuring MPAs within the region was assembled into alternative proposals. These alternatives were considered by the task force, and a subset was recommended to the Department. The Department ensured these alternatives were feasible, selected a preferred alternative, and formally presented the alternatives to the Commission.

### *The Blue Ribbon Task Force MPA Design Process*

The MPA design process is composed of four general activities:

1. **Regional MPA planning**, which starts with the identification of a study region along the coast that constitutes a logical locale based on a variety of scientific and socioeconomic criteria for studying where MPAs might appropriately be placed. Much of this background information is assembled into a regional profile. A regional stakeholder group is then established for the selected region. This step ends with the identification of regional goals and objectives, an evaluation of existing MPAs and other management measures, initial discussion of areas of ecological importance and human use interest, and refinement of the regional profile.
2. **Assembling alternative MPA proposals**, which involves developing and refining packages of MPAs for the study region. This stage also includes an initial evaluation of the proposals, including socioeconomic effects, and a feasibility study to determine whether proposals can be implemented.
3. **Evaluating alternative MPA proposals,** which begins with initial evaluation by the task force or Commission. The task force then forwards the package of alternative proposals to the Department, or the Commission provides direction to the Department, which reviews the proposals, selects a preferred alternative and prepares a general management plan for MPAs in the region..
4. **Fish and Game Commission consideration and action on MPA proposals**, which includes public hearings, consideration of testimony and action on the proposals.

Figure 2 illustrates these activities and the major elements of each. Table 1 provides a summary of the activities and elements of the activities, together with a list of the lead actors and the groups to be consulted. A more detailed description of each activity follows in the text.

The ultimate goal of these activities is compliance with the MLPA, and specific elements listed here provide general guidance only. In each regional process, the specific elements undertaken must be selected and adjusted based both on the specifics of that region and adaptations suggested from prior experiences implementing the MLPA.

The process used in the central coast study region and the master plan framework guiding that process were used as the basis for this statewide master plan. Changes were made to the framework and process based on lessons learned in the central coast process.

Figure 2. Process for MPA planning in study regions.

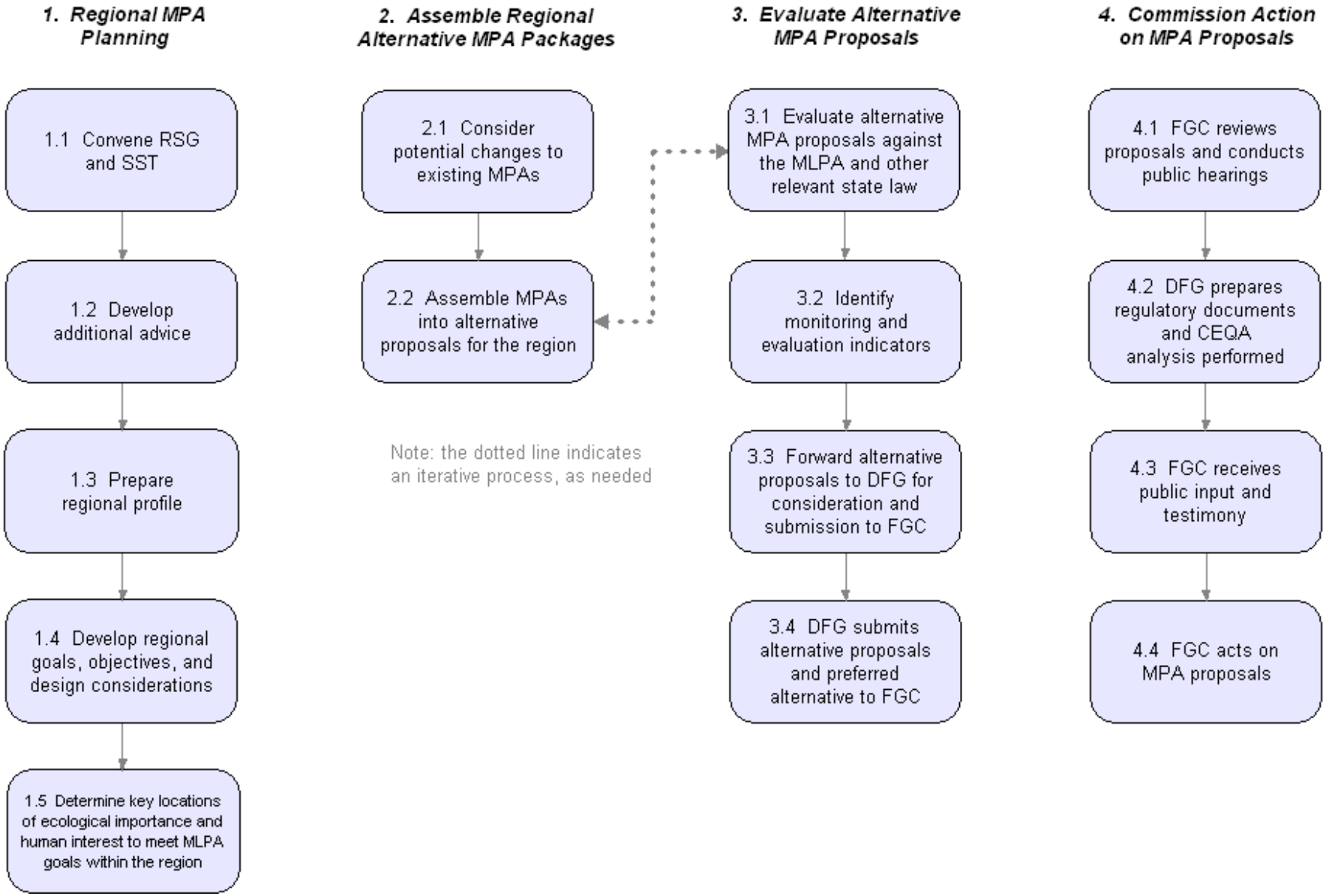

Table 1: Process for MPA planning in study regions.

Key to acronyms: BRTF = Blue Ribbon Task Force; CEQA = California Environmental Quality Act; DFG = Department of Fish and Game; FGC = Fish and Game Commission; RSG = Regional Stakeholder Group; SAT = Science Advisory Team; SST = Science Advisory Sub-team.

| | ***TASK*** | ***LEAD ACTORS*** | ***SUGGEST/COMMENT*** |
|---|---|---|---|
| | | | |
| **REGIONAL MPA PLANNING** | | | |
| ***1.1*** | ***Convene regional process*** | | |
| 1.1.1 | Convene regional stakeholder group (RSG) and science advisory team (SAT) | DFG | Stakeholders |
| 1.1.2 | Select science advisory sub-team (SST) | SAT/DFG | |
| | | | |
| ***1.2*** | ***Develop additional advice*** | | |
| 1.2.1 | Identify issues requiring additional advice for designing MPAs in the study region | RSG/SST/DFG | Stakeholders/SAT |
| 1.2.2 | Collect and prepare additional advice for designing MPAs in the study region | DFG/SST | RSG/Stakeholders |
| 1.2.3 | Review additional advice for designing MPAs in the study region | BRTF/FGC/SAT | RSG/Stakeholders |
| 1.2.4 | Adopt additional advice for designing MPAs in the study region | BRTF | |
| | | | |
| ***1.3*** | ***Prepare regional profile*** | | |
| 1.3.1 | Assemble regional information on biological, oceanographic, socioeconomic, and governance aspects of the region | DFG | RSG/Stakeholders |
| 1.3.2 | Evaluate existing MPAs against goals and objectives | DFG/SAT | RSG/Stakeholders |
| 1.3.3 | Evaluate existing fishing and non-fishing management activities against the MLPA, regional goals and objectives, and other relevant state law | DFG/SAT | RSG/Stakeholders |
| 1.3.4 | Identify inadequacies, if any, in existing MPAs and management | DFG/SAT | RSG/Stakeholders |
| 1.3.5 | Review regional information and consider comments from stakeholders | RSG/SST | Stakeholders |
| 1.3.6 | Identify a list of key or critical species and document their regional distribution | SST | Stakeholders |
| | | | |
| ***1.4*** | ***Develop regional ecological and socioeconomic goals, objectives and design considerations*** | | |
| 1.4.1 | Design regional goals, objectives and design considerations consistent with the MLPA and other relevant state law | RSG/SST | Stakeholders |
| 1.4.2 | Review regional goals, objectives and design considerations | BRTF/FGC/SAT | Stakeholders |
| 1.4.3 | Approve regional goals, objectives and design considerations | BRTF | |
| | | | |

| | | | |
|---|---|---|---|
| ***1.5*** | ***Determine key locations for MPAs to meet the MLPA goals within the region*** | RSG/SST | DFG/SAT/Stakeholders |
| 1.5.1 | Evaluate distribution of representative and unique habitats | RSG/SST | Stakeholders |
| 1.5.2 | Evaluate wildlife populations, habitats, and uses of concern | RSG/SST | Stakeholders |
| 1.5.3 | Evaluate activities affecting populations and habitats within the region | RSG/SST | Stakeholders |
| 1.5.4 | Identify species likely to benefit that are of particular concern to the region | RSG/SST | Stakeholders |
| 1.5.5 | Identify key locations in the region where MPAs may help achieve the MLPA goals and contribute to an overall network | RSG/SST | Stakeholders |
| | | | |
| **ASSEMBLE REGIONAL ALTERNATIVE MPA PACKAGES** | | | |
| ***2.1*** | ***Consider potential changes to existing MPAs*** | RSG/SST | DFG/SAT/Stakeholders |
| 2.1.1 | Consider potential modifications to existing MPAs and potential new and alternative MPAs for meeting goals and objectives of the region, the MLPA, and of other relevant state law | RSG/SST | Stakeholders |
| | | | |
| ***2.2*** | ***Assemble alternative MPA packages for the region*** | RSG/SST | Stakeholders |
| 2.2.1 | Identify objectives for each existing and potential new MPA | RSG | SST/SAT/Stakeholders |
| 2.2.2 | Prepare a range of alternative proposals including a variety of MPAs within the region in order to achieve the goals and objectives based on the design considerations for the region. | RSG/SST | Stakeholders |
| 2.2.3 | Present this range of alternatives along with justification for each to the BRTF or Commission and SAT for review | RSG | |
| | | | |
| **EVALUATE ALTERNATIVE MPA PROPOSALS** | | | |
| ***3.1*** | ***Evaluate alternative MPA proposals against the MLPA and other relevant state law*** | BRTF | Stakeholders |
| 3.1.1 | Prepare preliminary habitat, size, and spacing analysis of each alternative proposal | SAT/SST | Stakeholders |
| 3.1.2 | Prepare preliminary socio-economic analysis of potential impacts of each alternative proposal | SAT/SST/DFG | Stakeholders |
| 3.1.3 | Review SST analyses and revise proposals as needed to more fully meet the goals, objectives and design considerations | RSG | |
| | | | |
| ***3.2*** | ***Identify monitoring and evaluation indicators*** | SST/SAT | DFG |
| | | | |
| ***3.3*** | ***Forward alternative proposals to the Department for consideration and submission to FGC*** | BRTF | |

| | | | |
|---|---|---|---|
| 3.3.1 | Conduct feasibility analysis to ensure proposals may be implemented | DFG | RSG/BRTF |
| 3.3.2 | Design general management plan for MPAs in the region, including monitoring, enforcement, and financing, with a periodic review of effectiveness | DFG/SAT | RSG/Stakeholders |
| 3.3.3 | Prepare preferred alternative based upon information submitted by BRTF, RSG, and other stakeholders | DFG | RSG/SAT/Stakeholders |
| | | | |
| ***3.4*** | ***Department submission of alternative proposals, preferred alternative and other documents to FGC*** | DFG | |
| | | | |
| **COMMISSION CONSIDERATION AND ACTION** | | | |
| ***4.1*** | ***FGC review of alternative proposals and public testimony*** | FGC | Stakeholders/DFG/BRTF |
| | | | |
| ***4.2*** | ***If FGC requests, the Department prepares regulatory documents, and a CEQA analysis is performed*** | DFG | |
| | | | |
| ***4.3*** | ***FGC accepts public testimony on alternative MPA proposals and supporting documents*** | FGC | Stakeholders |
| | | | |
| ***4.4*** | ***FGC acts on MPA proposals*** | FGC | |

The text below describes in greater detail the process for MPA planning in a study region. It is important to note that some of the sub-activities described below may occur simultaneously or may be repeated, such as the design of individual MPAs within a region. Other important activities, such as applying socioeconomic analyses or taking monitoring into account in the design of MPAs, are elements of broader activities throughout the process.

### *Task 1: Regional MPA Planning*

The objective of this task is to develop background information, goals and objectives, and determine key locations in the region where MPAs may be useful to achieve the MLPA goals and contribute to the overall network. This profile serves as a foundation for setting goals and objectives, developing alternative proposals, and identifying needs for additional information.

During the MLPA Initiative process, designing MPAs began with identification of an initial study region. The study region focused initial efforts to implement the MLPA in a discrete area. For the MLPA Initiative process, the MLPA Blue Ribbon Task Force (BRTF) oversaw all aspects of regional planning in the initial study region. In evaluating possible initial study region alternatives along the central coast from Point Conception to Point Arena, the MLPA Initiative used the following criteria, which may be useful in future evaluations:

- Biophysical boundaries. Species of plants and animals are not distributed continuously along the California coast. Many species form natural communities with borders that may assist in determining the central coast study region. Although the borders themselves

may be fuzzy, the central coast clearly has two major zones, divided by the outflow from San Francisco Bay. A weaker, but important break occurs at Point Sur, where current gyres cause abrupt changes in the composition of the community of species.

- Is the area large enough for replicates? Options were reviewed to determine if they were large enough to replicate various habitat types in more than one MPA within the entire region.
- Relative amount of habitat mapped. High-resolution mapping allows determination of bottom type on a finer scale than hard versus soft, and can distinguish relief, complexity, and rugosity, for example, of hard bottom structures. This criterion, rated as either high, moderately-high, moderate, or low, was based on the amount of available, high-resolution, fine-scale, habitat mapping data relative to the potential study region.
- Human activity boundaries. The diversity and intensity of human activities in coastal waters are discontinuous as well. As an example, recreational fishing is more prevalent south of Point Conception than north. The waters around Monterey are among the most popular sites for scuba diving in the United States. Government jurisdictions add another layer of complexity that should also be considered. Several sub-categories were considered within this criterion:
    - Recreational fishing
    - Commercial fishing
    - Scuba diving
    - County jurisdictions
    - Military/security uses
    - State/federal jurisdiction
- Progress of past MLPA and other public discussion groups. Input from outside groups' prior or ongoing discussions was considered. These groups may provide important information that will assist the regional process.
- Potential state, federal and private partners with financial or in-kind services. Potential partners were considered. The assistance provided by these partners can enhance and facilitate regional processes.
- Scientific knowledge of, and research being conducted in, the region. Public and private entities, such as universities, state and federal agencies, public waste dischargers (e.g., Southern California Coastal Water Research Project), and power generating companies (e.g., Pacific Gas and Electric's Diablo Canyon Power Plant) have conducted or are conducting research and monitoring studies in a variety of areas along the coast. Availability of region-specific information, including information on the distribution of habitats identified in the MLPA, should help determine the final study region.
- Availability of first-hand knowledge of the area. Numerous scientists, fishermen, and other informed individuals collectively provide a wealth of knowledge within specific areas. The level and availability of this type of information should be considered.
- Number of existing MPAs. Availability of scientific data about existing MPAs and how they meet or do not meet both resource protection needs and the requirements of the MLPA are important in determining a study region.
- Existing fishery regulations in the region and how they meet or do not meet both resource protection needs and the requirements of the MLPA. Existing regulations create differences in the need for additional protection in certain areas.
- Number of complete Department fishing districts and management areas (related to existing fishery regulations). The selected study region should reflect a consideration of these areas.

- Range or area over which a resource user may be expected to have a working knowledge of the resources. Similar to the range over which resources are utilized by user groups, the geographic range of a user's working knowledge will vary with the resource or resources in question. This also applies to researchers, fishery managers, and other scientists within the region. The selected study region should not be so large as to preclude the ability of individual representatives to provide input on its entire geographic extent.
- Distance members of a regional stakeholder group would need to travel in order to participate in group meetings. Choosing too large a study region could impose logistical problems for those required to, or interested in, participating in the process. This criterion was rated from high to low based on the length of coastline (nautical miles) within the potential study region as follows:
    - High = greater than 200 miles
    - Moderate to high = 151-200 miles
    - Moderate = 100-150 miles
    - Low = less than 100 miles
- Availability of Department personnel. The same considerations relative to travel that apply to the regional stakeholder group would also apply to Department staff.

A list of potential initial study regions was prepared and input was taken from the public both at BRTF meetings and at three public workshops in 2005. Specific areas of agreement among the majority of comments were noted. In addition, specific areas of concern became apparent. From this, a set of three potential initial study regions was developed. The positive and negative aspects of each potential region were presented to the BRTF, which then selected the final initial study region of Pigeon Point to Point Conception based on the information provided.

The same criteria used to determine the initial study region have been applied to the rest of the California coast. Using these criteria and the lessons learned from the initial central coast region provides a good format for completing implementation throughout the California coast. Accordingly, the following timeline is recommended for statewide planning:

**Region 1:** Central Coast Region (Pigeon Point to Point Conception) - Planning within this initial region was completed in 2006
**Region 2:** South Coast Region (Point Conception to U.S./Mexico border) - Planned completion in 2008
**Region 3:** North-Central Coast Region (Point Arena to Pigeon Point) - Planned completion in 2009
**Region 4:** San Francisco Bay Region (Waters within the San Francisco Bay District as defined in CCR, Title 14, Section 27.00) - Planned completion in 2010
**Region 5:** North Coast Region (California/Oregon border to Point Arena) - Planned completion in 2011

The above provides a planning timeline, which may differ from the timeline of actual implementation. Implementation dates for MPAs within each region will be dependent upon acquiring appropriate levels of staff and funding to adequately manage, monitor, and enforce each area. Within each region, detailed management plans (described below) will provide specific plans and budgets for these critical activities.

*Activity 1.1: Convene regional planning process*

Activity 1.1.1: The director of the Department convenes a regional stakeholder group and science advisory team to participate in the evaluation of the region and existing management, regional goals and objectives and potential changes to existing MPAs and the design of any additional MPAs.

Activity 1.1.2: The science team and Department identify members who will serve on a science sub-team, which will work closely with the regional stakeholder group, and will serve as a link to the science team.

*Activity 1.2: Develop additional advice*

Activity 1.2.1: The regional stakeholder group, the science advisory sub-team, and staff identify issues requiring additional advice for designing MPAs in the study region.

Activity 1.2.2: In consultation with the science advisory sub-team, staff prepares draft advice on these issues.

Activity 1.2.3: the task force, Commission and science team review additional advice for designing MPAs in the study region.

Activity 1.2.4: the task force or Commission acts on the additional advice.

*Activity 1.3: Prepare regional profile*

Activity 1.3.1: Staff assemble regional information on biological, oceanographic, socioeconomic and governance aspects and draw upon suggestions and information provided by local communities and other stakeholders. The profile will include governance aspects related to tribal uses in the region if applicable. See Appendix E for a description of social science tools and methods. The types of the information that might be included in a regional profile may be found in Appendix F.

Activity 1.3.2: Within the profile, staff evaluate existing MPAs in the study region. This preliminary analysis will include a review of existing studies within each MPA and a determination of whether the areas are meeting their original goals as well as whether they may achieve regional goals and MLPA requirements.

Activity 1.3.3: Within the profile, staff evaluate existing management of fishing and non-fishing activities (e.g., Rockfish Conservation Areas or trawl fishery closures, etc.). Where this other management meets the goals and objectives of the MLPA in all or part of the region, it should be incorporated into the final design.

Activity 1.3.4: Within the profile, staff identify inadequacies in existing MPAs and management activities in meeting the goals and objectives of the MLPA. (See Appendix H for a description of planning processes related to the MLPA.)

Activity 1.3.5: The regional stakeholder group and the science sub-team review regional information and consider comments from stakeholders.

Activity 1.3.6: Drawing upon the list of species likely to benefit from protection within MPAs described in Appendix G, the science advisory sub-team develops a list of key or critical species and document their regional distribution.

*Activity 1.4: Develop regional ecological and socioeconomic goals, objectives and design considerations*

Activity 1.4.1: Drawing upon the regional profile and the goals and objectives of the MLPA, the regional stakeholder group and the science advisory sub-team design recommended regional goals, objectives and design considerations, consistent with the MLPA and other relevant state law. (See discussion of setting goals and objectives below.)

Activity 1.4.2: The regional goals, objectives, and design considerations developed in the regional effort are reviewed by the science team, whose comments are forwarded to the task force. The task force reviews the proposed regional goals, objectives, and alternative network concepts and provides comments and suggestions to the regional stakeholder group for consideration in revision. The task force subsequently forwards its comments and suggestions, together with the proposed regional goals, objectives, and network concepts, to the Department

Activity 1.4.3: The task force approves the regional goals, objectives, and design considerations, when satisfied that they meet the standards of the MLPA.

*Activity 1.5: Determine key locations for MPAs to meet the MLPA goals within the region.*

Activity 1.5.1: The regional stakeholder group and the science advisory sub-team evaluate the distribution of representative and unique habitats in the region, based on the information assembled in Activity 1.3, and information provided by stakeholders, including local communities and fishermen.

Activity 1.5.2: The regional stakeholder group and the science advisory sub-team identify and evaluate wildlife populations, habitats, and various human uses that may negatively impact the populations and habitats in the region.

Activity 1.5.3: The regional stakeholder group and the science advisory sub-team identify and evaluate activities that may affect populations and habitats.

Activity 1.5.4: The regional stakeholder group and the science advisory sub-team determine which key or critical species from step 1.3.6 are likely to benefit from MPAs in the region. Species not likely to benefit should also be considered as prohibition of their take may lead to unnecessary socioeconomic impact. All species should be considered for their ecological interactions, whether the individual species benefit or not.

Activity 1.5.5: The regional stakeholder group and the science advisory sub-team identify key locations in the region where MPAs may help achieve the MLPA goals and contribute to an overall network. The groups will consider both ecologically important areas and areas of key human interest in their discussions.

### *Task 2: Assemble Regional Alternative MPA Packages*

The objective of this task is to make specific recommendations on changes to existing MPAs along with suggestions for alternative new MPAs and other potential management measures. The intent is for the sum of individual MPAs to meet the regional goals and objectives and the sum of the regions to meet the MLPA goals and objectives and network requirements, while noting that any individual MPA may not meet all of the goals of the region or network.

Activity 2.1: Recommend potential changes to existing MPAs.

Activity 2.1.1: The regional stakeholder group and the science sub-team review all the above information and make initial recommendations for the modification, reduction in size, expansion, or removal of existing MPAs in order to meet regional goals and objectives consistent with the goals of the MLPA and of other relevant State law.

Activity 2.2: Assemble alternative MPA packages for the region

Activity 2.2.1: The regional stakeholder group reviews each revised or potential new MPA and identifies initial objectives for each MPA to help meet the goals and objectives of the MLPA.

Activity 2.2.2: The regional stakeholder group and the science advisory sub-team prepare a range of alternative proposals including a variety of MPAs within the region. Each proposal is intended to achieve the goals and objectives of the MLPA and is based on the design considerations developed for the region

Activity 2.2.3: The alternative proposals are presented to the task force or Commission and SAT for review and evaluation.

### *Task 3: Evaluate Alternative MPA proposals*

The objectives of this task are to conduct initial reviews of the alternative MPA proposals, to conduct environmental and socioeconomic analyses as required by law, and to identify potential monitoring and evaluation indicators for long-term management.

*Activity 3.1: Evaluate alternative MPA proposals.*
The science advisory sub-team and science team conduct a variety of analyses in order to provide relative comparisons of each package to each other in respect to the MLPA goals and objectives and other relevant State law. This review is provided to the BRTF for discussion and may lead to revisions to the proposals and a repetition of portions of Task 3.

Activity 3.1.1: The science advisory sub-team and science team prepare preliminary analyses of the habitats within MPAs, MPA sizes, and MPA spacing for each alternative proposal. These analyses provide a relative comparison of how well each proposal meets specific goals of the MLPA.

Activity 3.1.2: The science advisory sub-team and science team, in conjunction with the Department and potential contracted support, prepare a preliminary analysis of the maximum potential impact of each proposal to existing fishing in terms of area set aside versus frequency of use.

Activity 3.1.3: The regional stakeholder group reviews the science team analyses and revises proposals, as necessary, to more fully meet the goals, objectives and design considerations.

*Activity 3.2: Identify monitoring and evaluation indicators.*
The regional stakeholder group and the science advisory sub-team identify potential monitoring and evaluation indicators used to evaluate progress toward achieving goals and objectives.

*Activity 3.3: Forward proposals to Department.*
The task force forwards alternative proposals for MPAs, initial evaluations, and the general management plan, together with its own evaluation, to the Department for its consideration and submission to the Commission.

Activity 3.3.1: The Department conducts a feasibility analysis of the proposals. This analysis includes analysis of the Department's ability to enforce, monitor, manage and fund the full implementation of the proposed MPAs. The analysis will not be contingent upon existing funds, but proposals must be reasonably expected to be implemented within the MLPA implementation timeframe. Proposals that are found infeasible may be altered by the Department in preparation of its preferred alternative, returned to the regional stakeholder group for further discussion and revision, or noted with specific comments for the Commission.

Activity 3.3.2: The Department with assistance from the science team designs a general management plan for MPAs in the region, including specific plans for monitoring, enforcement, costs and financing, and periodic review of effectiveness. This plan may be forwarded to the Commission along with the specific area proposals or separately during the decision making process (Task 5).

Activity 3.3.3: The Department prepares a preferred alternative based upon the information submitted by the task force, regional stakeholder group, and other stakeholders or interested parties.

*Activity 3.4: Submit proposals to Commission.*
The Department submits those alternative proposals that are consistent with the MLPA, a preferred alternative, and other pertinent information from the regional groups and the task force, to the Commission.

***Task 4: Commission consideration and action***

The objectives of this task are to consider public testimony and other information regarding the MPA proposals submitted by the Department and to take action on these proposals.

*Activity 4.1: Commission review of proposals.*
The Commission reviews the alternative regional MPA proposals, takes public testimony, and determines whether to request that the Department begin the formal regulatory process.

*Activity 4.2: Formal regulatory process.*
If the Commission does make such a request, the Department prepares regulatory language and other documents and analyses required by the California Environmental Quality Act (CEQA) and other relevant law.

*Activity 4.3: Public testimony.*
The Commission then accepts public testimony on the alternative regional MPA proposals and on the analyses conducted under CEQA and other law.

*Activity 4.4: The Commission acts on alternative regional MPA proposals.*